

CODE	NUMBER OF BITS	DESCRIPTION
sequence header code	32	SEQUENCE HEADER CODE
horizontal size value	12	LOWER 12 BITS OF THE NUMBER OF HORIZONTAL PIXELS
vertical size value	12	LOWER 12 BITS OF THE NUMBER OF VERTICAL LINES
aspect ratio information	4	PIXEL ASPECT RATIO INFORMATION
frame rate code	4	FRAME RATE CODE
bit rate value	18	LOWER 18 BITS OF BIT RATE (FOR UNITS OF 400 BITS)
vbv buffer size value	9	LOWER 10 BITS OF VBV BUFFER SIZE
intra quantiser matrix [64]	8*64	INTRA MB QUANTIZER MATRIX VALUE
non intra quantiser matrix [64]	8*64	NON-INTRA MB QUANTIZER MATRIX VALUE

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CODE	NUMBER OF BITS	DESCRIPTION
extension start code	32	START SYNCHRONIZATION CODE OF EXTENSION DATA
extension start code identifier	4	INDICATES WHICH EXTENSION DATA IS TRANSMITTED
profile and level indication	8	INDICATION OF PROFILE AND LEVEL
progressive sequence	-	INDICATES PROGRESSIVE SCAN
chroma format	2	CHROMA FORMAT SETTING
horizontal size extension	2	UPPER 2 BITS OF THE NUMBER OF HORIZONTAL PIXELS OF PICTURE
vertical size extension	2	UPPER 2 BITS OF THE NUMBER OF VERTICAL LINES OF PICTURE
bit rate extension	12	UPPER 12 BITS OF BIT RATE VALUE
marker bit	-	PREVENTS START CODE EMULATION
vbv buffer size extension	80	UPPER 8 BITS OF VBV BUFFER SIZE
low delay	-	INDICATING THAT B-PICTURE IS NOT INCLUDED
frame rate extension n	2	FRAME RATE EXTENSION
frame rate extension d	2	FRAME RATE EXTENSION
next start code ()		

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CODE	NUMBER OF BITS	DESCRIPTION
extension data (0)		EXTENSION DATA (0)
sequence display extension ()		SEQUENCE DISPLAY ()
sequence scalable extension ()		SEQUENCE SCALABLE EXTENSION ()
extension start code identifier	4	SEQUENCE SCALABLE EXTENSION ID
scalable mode	2	SCALABILITY MODE
layer id	4	LAYER ID OF SCALABLE LAYER
FOR SPATIAL SCALABILITY		
lower layer prediction horizontal size	14	HORIZONTAL SIZE OF LOWER LAYER PREDICTION
lower layer prediction vertical size	14	VERTICAL SIZE OF LOWER LAYER PREDICTION
vertical subsampling factor n	2	VERTICAL UPSAMPLING FACOR
FOR TEMPORAL SCALABILITY		
picture mux order	ო	THE NUMBER OF ADDED LAYER PICTURES BEFORE FIRST BASE LAYER PICTURE
picture mux factor	ဇ	THE NUMBER OF ADDED LAYER PICTURES BETWEEN BASE LAYERS
user data ()		USER DATA ()
user data	8	USER DATA

FIG. 5

CODE	NUMBER OF BITS	DESCRIPTION
0,000 1000 1000	32	GOP START CODE
group start code	١	Tailtoid discours
opoo omit	25	TIME CODE (HOUR, MINUTE, SECOND, PICTURE)
illie code	١	
200 000	-	FLAG INDICATING INDEPENDENCY OF GOP
doß nason		COO IN LUCIE -
the state of the last	-	VALIDITY FLAG OF B-PICTURE BEFORE I-PICTURE IN GOF
Droken IIIk		

FIG. 6

DESCRIPTION	EXTENSION DAIA (1)	USER DAIA ()		USER DATA	
NUMBER OF BITS				80	
CODE	extension data (1)	() data ()	1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	user data	555

FIG. 7

	DESCRIPTION	PICTURE START CODE	DISPLAY ORDER OF PICTURES IN GOP (modulo 1024)	PICTURE-CODING TYPE (I, B, P)	AMOUNT OF VBV DELAY UNTIL DECODING STARTS
-	NUMBER OF BITS	32	9	က	16
	CODE	picture start code	temporal reference	picture coding type	vbv delay

FIG

CODE	NUMBER OF RITS	DESCRIPTION
		GOVINGOVO GIVE GOTTINGO
f code [s] [t]	4	RANGE OF MOTION VECTORS IN FORWARD AND BACKWARD DIRECTIONS (4). AND HORIZONTAL AND VERTICAL DIRECTIONS (5).
intra do precision	2	DC COEFFICIENT PRECISION OF INTRA MB
THE COLOR	c	DICTURE STRUCTURE (FRAME, FIELD)
picture structure	7	
ton field first	_	DISPLAY FIELD SETTING
tromo proof frame dot	-	FRAME PREDICTION + FRAME DCT FLAG
Irame pied lialie dot		OV 12 VW TINLING
concealment motion vectors	-	NTRA MB CONCEALMENT MV TLAG
a cos a	-	QUANTIZER SCALE TYPE (LINEAR, NON-LINEAR)
d scale type	-	INTRA MB VIC TYPE
intra vlc format	-	THANGTH: COMPANY OF CHINE
alternate scan	-	SCANNING TYPE (ZIGZAG, ALIEHNAIE)
andinare oca:	-	2.3 PULL-DOWN FIELD REPEAT
repeat IIISt Held	-	O. C. IVI
chroma 420 type	-	SAME VALUE AS progressive liane in 4.2.0
odf, on amount	-	PROGRESSIVE FRAME FLAG
progressive Trame	_	

rozaar zikaeoor FIG. 9

Number Number		4	
E	CODE	NUMBEH OF BITS	DESCRIPTION
matrix [64] 8*64 11	extension data (2)		EXTENSION DATA (2)
a quantiser matrix [64] 8'64 III a quantiser matrix [64] 8'64 N Intra quantiser matrix 8'64 C C C C C C C C C C C C C C C C C C C	quant matrix extension ()		QUANTIZER MATRIX EXTENSION ()
a quantiser matrix [64] 8*64 N intra quantiser matrix 8*64 C column	intra quantiser matrix [64]	8*64	INTRA MB QUANTIZER MATRIX
intra quantiser matrix 8*64 C 64] non intra quantiser 8*64 C 64] extension () 6 C 64] atlas scalable () 1 C 6 C 6 C 6 C 6 C 6 C 6 C 6 C 6 C 6 C	non intra quantiser matrix [64]	8*64	NON-INTRA MB QUANTIZER MATRIX
March Marc	chroma intra quantiser matrix [64]	8*64	CHROMA INTRA QUANTIZER MATRIX
extension ()	chroma non intra quantiser	8*64	CHROMA NON-INTRA QUANTIZER MATRIX
splay extension () ratial scalable () temporal weight code () syer progressive frame () rayer deinterlaced field () rayer deinterlaced () rayer dei	convright extension ()		COPYRIGHT EXTENSION ()
() (approved a scalable content of the more c	picture display extension ()		PICTURE DISPLAY EXTENSION ()
dex yer progressive frame 1 1 1 yer progressive frame 1 1 1 yer deinterlaced field 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	picture spatial scalable extension ()		PICTURE SPATIAL SCALABLE EXTENSION ()
ayer progressive frame 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	spatial temporal weight code table index	2	UPSAMPLING SPATIAL TEMPORAL WEIGHT CODE TABLE
mporal scable mporal scable ce select code temporal reference 10 rd temporal reference ()	lower layer progressive frame	-	LOWER LAYER PROGRESSIVE IMAGE FLAG
() 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	lower layer deinterlaced field select	1	LOWER LAYER FIELD SELECTION
2 select code 2 temporal reference 10 to temporal reference 10 ()	picture temporal scable extension ()		PICTURE TEMPORAL SCALABLE EXTENSION ()
10 10 10 10 10 10 10 10 10 10 10 10 10 1	reference select code	2	SELECTION OF REFERENCE IMAGE
rd temporal reference 10	forward temporal reference	10	PICTURE NUMBER OF FORWARD PREDICTIVE LOWER LAYER
8	backward temporal reference	10	PICTURE NUMBER OF BACKWARD PHEDICTIVE LOWER LATER
8	user data ()		USER DATA ()
USO ORIGINAL PROPERTY OF THE P	user data ()	8	USER DATA

FIG. 10

CODE	NUMBER OF BITS	DESCRIPTION
	3	SO STATE OF TABLE OF THE VERTICAL POSITION
slice start code	32	SLICE SIMIL CODE + CEICE TEILIGIE : CO.
slice vertical position extension	3	SLICE VERTICAL POSITION EXTENSION (>2800 LINES)
Silve velices possible	7	DATA PARTITIONING BREAKPOINT
priority prearpoint	-	(10 of 1) OLGOO L. 100 GILL.
quantiser scale code	ιΩ	QUANTIZER SCALE CODES (1 10 31)
intro clico	-	INTRA SLICE FLAG
IIII SIICO		
macroblock ()		MACROBLOCK DATA ()
/ 1001001	_	

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CODE	NUMBER OF BITS	DESCRIPTION
morrohlock escane	=	MB ADDRESS EXTENSION (>33)
macroblock address increment	1-11	DIFFERRENCE BETWEEN CURRENT MB ADDRESS AND PREVIOUS MB ADDRESS
macroblock modes ()		MACROBLOCK MODE ()
macroblock type	1-9	MB CODING TYPE (MC, Coded, etc.)
spatial temporal weight code	2	UPSAMPLING SPATIAL TEMPORAL WEIGHT CODE
frame motion type	2	MOTION COMPENSATION TYPE FOR FRAME STRUCTURE
field motion type	2	MOTION COMPENSATION TYPE FOR FIELD STRUCTURE
dot type	-	DCT TYPE (FRAME, FIELD)
Guantiser scale code	5	MB QUANTIZER SCALE CODES (1 to 31)
motion vectors (s)		MOTION VECTORS (s)
motion vertical field select [r] [s]	-	SELECTION OF REFERENCE FIELD FOR PREDICTION
motion vector (r. s)		MOTION VECTOR (r, s)
motion code [r] [s] [f]		FUNDAMENTAL DIFFERENTIAL MOTION VECTOR
motion residual [7] [8] [1]	1-8	RESIDUAL DIFFERENTIAL VECTOR
dmvector [t]	1-2	DUAL PRIMING DIFFERENTIAL VECTOR
coded block pattern ()		CBP
block (i)		BLOCK DATA ()
DIODIK (1)		

CODE	NUMBER OF BITS	DESCRIPTION
det de size luminance	2 - 9	2 - 9 DCT LUMINANCE DC COEFFICIENT DIFFERENTIAL SIZE
det de differential	1-1	1-11 DCT LUMINANCE DC COEFFICIENT DIFFERENTIAL VALUE
det de size chrominance	2 - 10	2-10 DCT CHROMINANCE DC COEFFICIENT DIFFERENTIAL SIZE
Act do differential	1.1	1.11 DCT CHROMINANCE DC COEFFICIENT DIFFERENTIAL VALUE
First DCT coefficient	3 - 24	3-24 FIRST NON-ZERO COEFFICIENT OF NON-INTRA BLOCK
Subsequent DCT coefficient	2 - 24	2 - 24 SUBSEQUENT DCT COEFFICIENT
End of block	2 or 4	2 or 4 FLAG INDICATING END OF DCT COEFFICIENT IN BLOCK

FIG. 13A

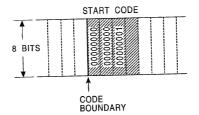


FIG. 13B

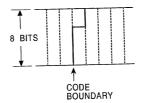
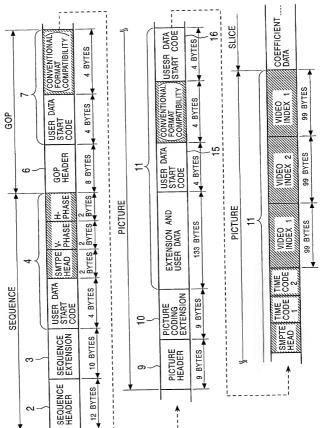


FIG. 14





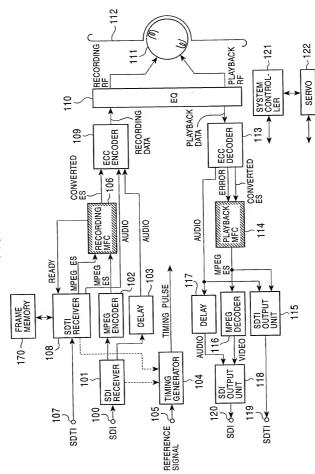


FIG. 16

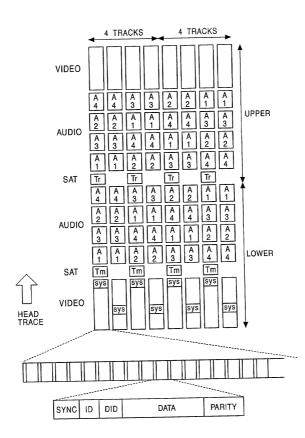


FIG. 17A

4:4	: 4					_
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h	1	;			, — — — I	i

X LUMINANCE SIGNAL (Y)
CHROMINANCE SIGNAL (Cr)
CHROMINANCE SIGNAL (Cb)

FIG. 17B

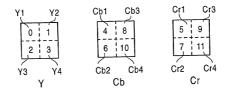


FIG. 18A

4:2	: 2					_
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Ø	×	Ø	×	⊗	×	ļ
Ø	×	Ø	X	Ø	×	
Ø	×	8	×	1	×	! !
Ø	×	Ø	×	Ø	×	-
F				1		i

X LUMINANCE SIGNAL (Y)
CHROMINANCE SIGNAL (Cr)
CHROMINANCE SIGNAL (Cb)

FIG. 18B

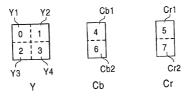
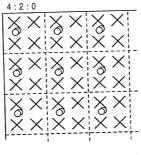


FIG. 19A



× LUMINANCE SIGNAL (Y)
CHROMINANCE SIGNAL (Cr)
CHROMINANCE SIGNAL (Cb)

FIG. 19B

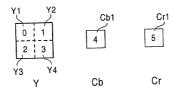


FIG. 20A

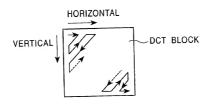


FIG. 20B

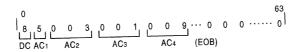


FIG. 21A

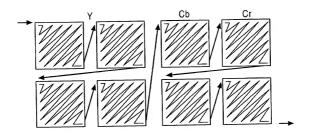


FIG. 21B

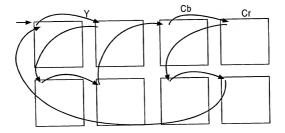


FIG. 22A

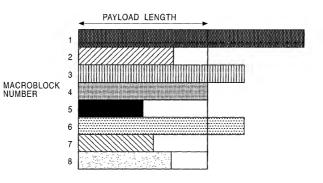


FIG. 22B

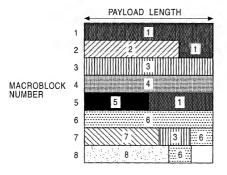


FIG. 23A

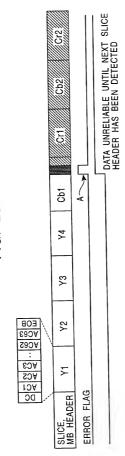


FIG. 23B

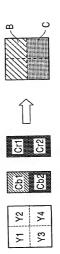


FIG. 24A

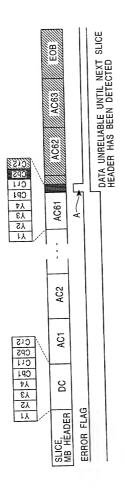
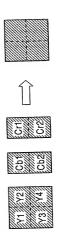
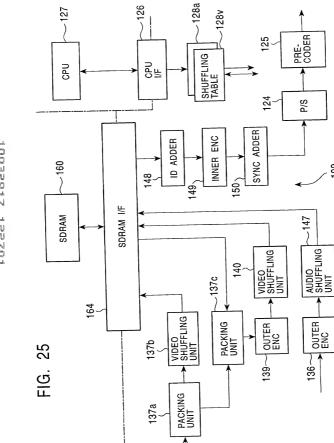


FIG. 24B





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FIG. 26

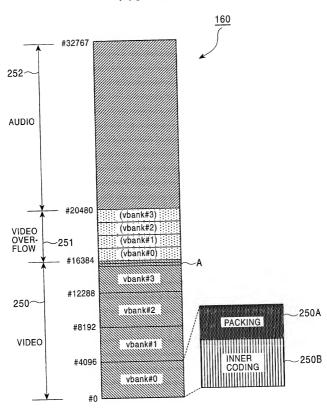
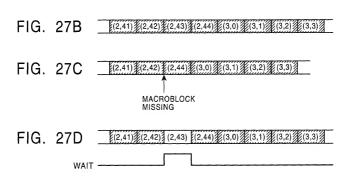


FIG. 27A

(0,0)	(0,1)	(0,2)	(0,3)	(0,4)		(0,40)	(0,41)	(0,42)	(0,43)	(0,44)
(1,0)	(1,1)	(1,2)	(1,3)	(1,4)		(1,40)	(1,41)	(1,42)	(1,43)	(1,44)
(2,0)	(2,1)	(2,2)	(2,3)	(2,4)		(2,40)	(2,41)	(2,42)	(2,43)	(2,44)
(3,0)	(3,1)	(3,2)	(3,3)	(3,4)		(3,40)	(3,41)	(3,42)	(3,43)	(3,44)
(4,0)	(4,1)	(4,2)	(4,3)	(4,4)		(4,40)	(4,41)	(4,42)	(4,43)	(4,44)
	1	:					1	:		
(36,0)	(36,1)	(36,2)	(36,3)	(36,4)	[<u>]</u>	(36,40)	(36,41)	(36,42)	(36,43)	(36,44)
(37,0)	(37,1)	(37,2)	(37,3)	(37,4)		(37,40)	(37,41)	(37,42)	(37,43)	(37,44)

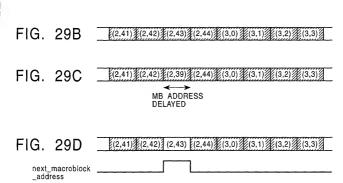


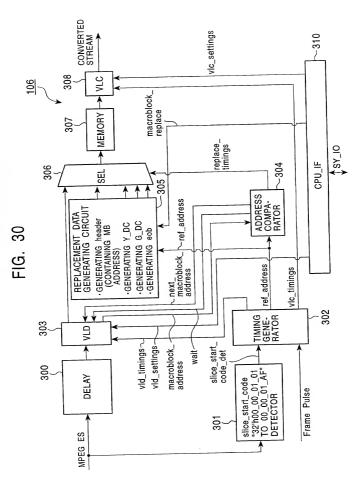
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		TINDEINOC
ITEM	VALUE	CONTENT
slice_start_code	32'h00_00_01_03	(03 IS CREATED FROM mb_row ON SCREEN)
quantizer_scale_code	5'b1 0000	
extra_bit_slice	1,p0	SCREEN COM mb column ON SCREEN)
macroblock_escape	11'b0000_0001_000	(CREATED FROM IND_COMMIN ON SCREEN)
macroblock_address_increment	8'b0000_1010	CREATED FROM HID COMMIN ON CONTENT
macroblock_type	1.b1	
dct tvpe	1'b1	
dct_dc_size_luminance	3'b100	Y1 DC
eob	4'b0110	
det de size luminance	3'b100	Y2 DC
qua	4'b0110	
det de size luminance	3'b100	Y3 DC
qoe	4'b0110	
dct dc size luminance	3'b100	Y4 DC
009	4'b0110	•
dct_dc_size_chrominance	5'b00	Cb1 DC
qoe	4'b0110	
dct dc_size_chrominance	5,p00	מן מכ
qoe	4'b0110	
det de size chrominance	2'b00	Cb2 DC
eop	4'b0110	1
ct dc size chrominance	2'b00	Cr2 DC
ı qo	4'b0110	

FIG. 29A

(0,0)	(0,1)	(0,2)	(0,3)	(0,4)		(0,40)	(0,41)	(0,42)	(0,43)	(0,44)
(1,0)	(1,1)	(1,2)	(1,3)	(1,4)	_	(1,40)	(1,41)	(1,42)	(1,43)	(1,44)
(2,0)	(2,1)	(2,2)	(2,3)	(2,4)		(2,40)	(2,41)	(2,42)	(2,43)	(2,44)
(3,0)	(3,1)	(3,2)	(3,3)	(3,4)		(3,40)	(3,41)	(3,42)	(3,43)	(3,44)
(4,0)	(4,1)	(4,2)	(4,3)	(4,4)		(4,40)	(4,41)	(4,42)	(4,43)	(4,44)
		:	1		- -			:		
(36,0)	(36,1)	(36,2)	(36,3)	(36,4)	[]	(36,40)	(36,41)	(36,42)	(36,43)	(36,44)
(37,0)	(37,1)	(37,2)	(37,3)	(37,4)		(37,40)	(37,41)	(37,42)	(37,43)	(37,44)





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FIG. 31

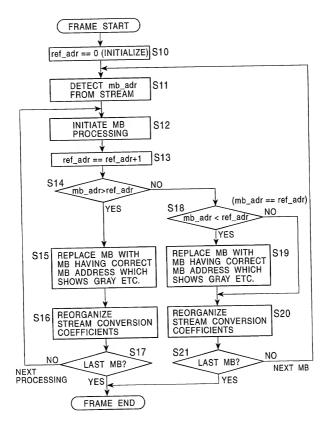


FIG. 32A

(0,0)	(0,1)	(0,2)	(0,3)	(0,4)		(0.40)	(0,41)	(0.42)	(0.43)	(0.44)
(0,0)	(0,1)	(0,2)	(0,0)	(0, 1,		(0,10)	(0,,	(0)/	(-,,	(-, -,
(1,0)	(1,1)	(1,2)	(1,3)	(1,4)		(1,40)	(1,41)	(1,42)	(1,43)	(1,44)
(2,0)	(2,1)	(2,2)	(2,3)	(2,4)	·	(2,40)	(2,41)	(2,42)	(2,43)	(2,44)
(3,0)	(3,1)	(3,2)	(3,3)	(3,4)		(3,40)	(3,41)	(3,42)	(3,43)	(3,44)
(4,0)	(4,1)	(4,2)	(4,3)	(4,4)		(4,40)	(4,41)	(4,42)	(4,43)	(4,44)
		i				1	1	:	1	
(36,0)	(36,1)	(36,2)	(36,3)	(36,4)	[₋	(36,40)	(36,41)	(36,42)	(36,43)	(36,44)
(37,0)	(37,1)	(37,2)	(37,3)	(37,4)		(37,40)	(37,41)	(37,42)	(37,43)	(37,44)

